References

1. Watt AH, Bernard MS, Webster J, Passani SL, Stephens MR, Routledge PA. Intravenous adenosine in the treatment of supraventricular tachycardia: a dose-ranging study and interaction with dipyridamole. Br J Clin Pharmacol (in press).
2. Di Marco JP, Sellers TD, Lerman BB, Greenberg ML, Berne RM, Belardinelli L. Diagnostic and therapeutic use of adenosine in patients with supraventricular tachyarrhythmias. J Am Coll Cardiol 1985;6:417–25.
3. Watt AH, Routledge PA. Adenosine stimulates respiration in man. Br J Clin Pharmacol 1985;20:503–6.
4. Cushley MJ, Tattersfield AE, Holgate ST. Inhaled adenosine and guanosine on airway resistance in normal and asthmatic human subjects. Br J Clin Pharmacol 1983;15:161–5.

Reply

We agree that transient dyspnea is common after injection of doses of adenosine sufficient to produce change in sinus rate at rest. However, in comparison studies, we (1) have shown that the dosage required to terminate paroxysmal supraventricular tachycardia in the same patient is usually lower and thus the sensation of dyspnea is much less common.

The effects of adenosine on respiration are still incompletely understood. Some authors (2) have concluded that adenosine is a central respiratory depressant rather than a stimulant as proposed by Watt. In our experience, most patients with severe asthma are receiving a methylxanthine. Because methylxanthines in therapeutic doses block the electrophysiologic effects of adenosine, we have not treated any such patients. Two of our patients had a history of mild asthma that did not require long-term prophylactic therapy; neither reported any unusual side effects from adenosine. Finally, the unusually rapid elimination of adenosine after injection is due to rapid cellular uptake by a mechanism blocked by dipyridamole. In our study we excluded patients receiving this agent because we anticipated that markedly lower dosage requirements would be observed. Because alternative forms of therapy are usually available, one might question whether adenosine should be the drug of choice in patients receiving dipyridamole.

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References

1. Di Marco JP, Sellers TD, Berne RM, West GA, Belardinelli L. Adenosine: electrophysiologic effects and therapeutic use for terminating paroxysmal supraventricular tachycardia. Circulation 1983;68:1254–63.
2. Eldridge FL, Millhorn DE, Keley JP. Respiratory effects of a long acting analog of adenosine. Brain Res 1984;301:273–80.